

### Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (currently amended): A dental therapeutic instrument for infiltrating and/or rinsing dental tissue or cavities bounded by dental tissue with a therapeutic liquid, the dental therapeutic instrument comprising:
- a) a storage container for the therapeutic liquid;
  - b) a cannula for introducing the therapeutic liquid into the tissue or into the cavities;
  - c) a pump which supplies the therapeutic liquid to the cannula from the storage container;
  - d) a pump which withdraws therapeutic liquid from the tissue by suction via the cannula;
  - e) wherein the storage container, the cannula and the pumps are combined into a handpiece-type unit;
  - f) and wherein the pump that supplies the therapeutic liquid to the cannula and the pump that aspirates the therapeutic liquid via the cannula are implemented by a single pump, the working direction of which is reversible and having a single piston and a single cylinder; wherein
  - g) the single piston is pump ~~comprises~~ a double-acting linearly mobile piston which with a first ~~[[one]]~~ end region together with first portion of the single cylinder defines borders a first working space which is connected to the storage container via a check valve and which with a second ~~the opposite~~ end region together with a second portion of the single cylinder defines borders a second working space which permanently and bi-directionally communicates with the cannula,
  - h) the first working space communicating with the second working space via a flow path in which a check valve is situated which permits a flow of the therapeutic liquid only from the first working space into the second working space.

2. (canceled):

3. (canceled):

4. (previously presented): The dental therapeutic instrument of Claim 1, wherein the flow path leading from the first working space to the second working space is a bore which is directed axially through the piston.

5. (previously presented): The dental therapeutic instrument of Claim 1, wherein the cross-section of the end region of the piston adjoining the first working space is smaller than the cross-section of the end region of the piston adjoining the second working space.

6. (previously presented): The dental therapeutic instrument of Claim 1, further comprising a control valve is provided which in a first position connects the second working space to the cannula via a flow path that is capable of being flowed through in both directions and in a second position connects the second working space to the cannula and to a further flow path leading to the storage container via a flow path that is capable of being flowed through only in the direction towards the cannula, a check valve which exclusively permits a flow in the direction towards the second working space being situated in the further flow path.

7. (previously presented): The dental therapeutic instrument of Claim 6, wherein the control valve comprises a slide which is capable of being displaced linearly in a bore.

8. (currently amended): The dental therapeutic instrument of Claim 1, wherein the double-acting piston is driven by an actuating piston which is acted upon on a first [[one]] side by a compression spring and which on [[the]] a second opposite side adjoins a pressure chamber which in turn communicates with an [[the]] outlet of a compressed-air pulse generator.

9. (currently amended): The dental therapeutic instrument of Claim 8, wherein an [[the]] inlet of the compressed-air pulse generator is capable of being connected to a compressed-air

supply cable for conventional dental handpieces via a standard coupling.

10. (previously presented): The dental therapeutic instrument of Claim 1, wherein the storage container is a detachably fitted syringe which exhibits a smooth-running syringe piston.

11. (previously presented): The dental therapeutic instrument of Claim 10, wherein the syringe is a re-usable syringe consisting of autoclavable material.

12. (previously presented): The dental therapeutic instrument of Claim 10, wherein the syringe is a disposable syringe.

13. (previously presented): The dental therapeutic instrument of Claim 12, wherein the disposable syringe has no piston rod.

14-18. (canceled)

19. (new): A dental therapeutic instrument for infiltrating and/or rinsing dental tissue or cavities bounded by dental tissue with a therapeutic liquid, the dental therapeutic instrument comprising:

- a) a storage Container for the therapeutic liquid;
- b) a cannula for introducing the therapeutic liquid into the tissue or into the cavities;
- c) a pump which supplies the therapeutic liquid to the cannula from the storage container;
- d) a pump which withdraws therapeutic liquid from the tissue by suction via the cannula;
- e) wherein the storage container, the cannula and the pumps are combined into a handpiece-type unit;
- f) and wherein the pump that supplies the therapeutic liquid to the cannula and the pump that aspirates the therapeutic liquid via the cannula are implemented by a single pump, the working direction of which is reversible and having a single piston and a single cylinder; wherein

- g) the single is a double-acting linearly mobile piston which with a first end region together with first portion of the single cylinder defines a first working space which is connected to the storage container via a check valve and which with a second end region together with a second portion of the single cylinder defines a second working space which permanently and bi-directionally communicates with the cannula,
- h) the first working space communicating with the second working space via a flow path in which a check valve is situated which permits a flow of the therapeutic liquid only from the first working space into the second working space; and
- i) wherein the cross-section of the first end region of the piston adjoining the first working space is smaller than the cross-section of the second end region of the piston adjoining the second working space.

20. (new): A dental therapeutic instrument for infiltrating and/or rinsing dental tissue or cavities bounded by dental tissue with a therapeutic liquid, the dental therapeutic instrument comprising:

- a) a storage Container for the therapeutic liquid;
- b) a cannula for introducing the therapeutic liquid into the tissue or into the cavities;
- c) a pump which supplies the therapeutic liquid to the cannula from the storage container;
- d) a pump which withdraws therapeutic liquid from the tissue by suction via the cannula;
- e) wherein the storage container, the cannula and the pumps are combined into a handpiece-type unit;
- f) and wherein the pump that supplies the therapeutic liquid to the cannula and the pump that aspirates the therapeutic liquid via the cannula are implemented by a single pump, the working direction of which is reversible and having a single piston and a single cylinder; wherein
- g) the single piston is a double-acting linearly mobile piston which with a first end region together with first portion of the single cylinder defines a first working space which is connected to the storage container via a check valve and which with a second end region together with a second portion of the single cylinder defines a

second working space which permanently and bi-directionally communicates with the cannula,

- h) the first working space communicating with the second working space via a flow path in which a check valve is situated which permits a flow of the therapeutic liquid only from the first working space into the second working space; and
- i) wherein the cross-section of the first end region of the piston adjoining the first working space is smaller than the cross-section of the second end region of the piston adjoining the second working space; and
- j) wherein the double-acting piston is driven by an actuating piston which is acted upon on a first side by a compression spring and which on a second, opposite side adjoins a pressure chamber which in turn communicates with the outlet of a compressed-air pulse generator.